REMARKS

Claims 1-15 and 7-22 are pending with claims 1-12 withdrawn from consideration. Claims 13-15 and 17-22 stand rejected. Claim 13 is amended herewith, no new matter is introduced by way of this amendment. Applicant believes the claims are in condition for allowance. Reconsideration of the claims in view of the arguments presented herein is respectfully requested.

In paragraph 3 on page 2 of the Office Action, the Examiner objects to the Abstract. Applicant submits an amended Abstract and respectfully requests the Examiner withdraw the objection to the Abstract. No new matter is introduced by way of this amendment.

In paragraph 4 on page 2 of the Office Action, the Examiner objects to claim 13 due to grammatical informalities. Claim 13 is amended herewith to overcome this objection. Applicant respectfully requests the Examiner withdraw the objection to claim 13.

In paragraph 6 on page 3 of the Office Action, claims 13-22 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant traverses this rejection. Claim 13 is amended to overcome the rejection. Applicant respectfully requests the Examiner withdraw the rejection of claims 13-22 under U.S.C. § 112, second paragraph.

In paragraph 9 on page 4 of the Office Action, the Examiner rejects claims 13-15, 17-18 and 20-22 under 35 U.S.C. § 103(a) as being unpatentable over Newman (U.S.

Patent No 6,942,977) or, alternatively, Newman (Canadian Patent Application 2,110,109), in view of Pourfarzenah (U.S. Patent No. 5,564,104); claim 19 is rejected in further view of Herbert. Applicant respectfully traverses these rejections.

Three criteria must be met to establish a prima facie case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference, or combination of references, must teach or suggest all the claim limitations. MPEP § 2142.

Claim 13, as amended, provides, *inter alia*:

A test kit for performing an assay to detect the presence or amount of intrinsic factor specific-autoantibody that interferes with vitamin B12 binding to intrinsic factor in a fluid patient sample, said test kit comprising:

(a) a container containing labeled intrinsic factor, wherein the labeled intrinsic factor comprises a binding site for intrinsic factor-specific autoantibody in the fluid patient sample;

(b) a container containing a binding pair member capable of binding to the binding site for intrinsic factor-specific autoantibody in the fluid patient sample, said binding pair member being bound to a solid phase; and

(c) a container containing an interference blocking reagent that will specifically bind to vitamin B12 in the fluid patient sample, wherein vitamin B12 is capable of binding to the binding site for intrinsic factor-specific autoantibody, wherein the test kit is capable of performing an assay to detect the presence or

amount of intrinsic factor-specific autoantibody in the fluid patient sample without interference by vitamin B12.

The Examiner argues that Newman teaches diagnostic kits for assaying vitamin B12 comprising a receptor (intrinsic factor) having a specific binding site for an autoantibody that directly blocks binding to vitamin B12 and a binding pair member capable of binding the receptor (antibody that specifically binds to intrinsic factor), wherein either the intrinsic factor or the antibody is labeled and one of them is immobilized on a solid support.

Moreover, the Examiner contends that Newman teaches methods of extracting free vitamin B12 and other small molecular weight compounds from the test sample using, e.g., dextran coated charcoal. The Examiner acknowledges Newman's failure to teach an interference blocking reagent that will specifically bind to vitamin B12.

Newman simply does not give one skilled in the art a hint or suggestion of Applicant's invention as claimed. Initially, the Examiner's attention is drawn to the fact that the "sample" referred to in the claimed invention is fundamentally different in form and function from the "sample" used in Newman.

First, Newman's "sample" involves monoclonal antibody-containing supernates from which vitamin B12 is non-specifically extracted in order to generate suitable monoclonal antibody "sample" volumes to be split into sample pairs. In contrast, "sample" in the claimed invention refers to fluid test or patient samples, i.e., serum/plasma, that are evaluated so as to detect the presence and/or amount of intrinsic factor-specific autoantibody.

Second, Newman's "sample" functions to allow for the identification of a monoclonal antibody that will bind with intrinsic factor only in the absence of vitamin B12.

Each member of the Newman "sample" monoclonal antibody-containing supernate pair receives a different treatment as part of a process for screening to identify monoclonal antibodies of desired specificity. Newman's "samples" thus are monoclonal antibody-containing supernates, from which vitamin B12 is non-specifically extracted to enable the subsequent splitting of each of the extracted monoclonal antibody-containing supernates into two volumes. In this way, 'intrinsic factor with vitamin B12' may be added to the resulting first volume and 'intrinsic factor without vitamin B12' may be added to the resulting second volume.

Newman's invention requires that vitamin B12 be non-specifically removed from each volume prior to splitting the volume so that once the volume is actually split, each resulting sample volume would be equivalently devoid of vitamin B12. In this manner, a meaningful results comparison is allowed once vitamin B12 is added to only one of the sample pair members. This non-specific removal of vitamin B12 serves a significantly different function than the specific removal of vitamin B12 from the patient sample using Applicant's inventive test kit.

Further, under Newman, contacting an enzyme labeled antibody which specifically binds to immunoglobulin with each of these samples enables each of the resulting supernate pairs that are being screened to be compared for the behavior of its monoclonal antibody in the presence of added intrinsic factor (1) when vitamin B12 is present; and (2) when vitamin B12 is absent.

In summary, Newman provides a method for properly selecting monoclonal antibodies that bind intrinsic factor only in the absence of vitamin B12 and focusing on assaying vitamin B12, not for assaying intrinsic factor-specific autoantibody as claimed by Applicant.

In contrast, the invention as claimed provides for a patient sample that is non-divided in its use to report a medically relevant test result. Moreover, the interference blocking reagent in the claimed invention is used to specifically bind vitamin B12 in a fluid test sample obtained from a patient in order that intrinsic factor specific autoantibody may be assayed without interference from vitamin B12. The vitamin B12-specific monoclonal antibody of the invention as claimed serves as a sentry molecule that is present in an amount sufficient to remove any vitamin B12 that may otherwise interfere with the performance of the assay and yield an inaccurate result.

One skilled in the art attempting to solve the problem addressed by the present invention as claimed would simply not receive a hint or suggestion from Newman concerning the invention as claimed.

Pourfarzaneh fails to cure the defects of Newman. Pourfarzaneh discloses a method for using solid phase binders exclusively for the physical removal of radio-labeled waste from a solution. The goal of the cited reference is to eliminate the labeled material from solution altogether through exclusive use of solid phase binders.

By contrast, the present invention discloses and claims, *inter alia*, a test kit comprising an interference blocking reagent that specifically binds to vitamin B12, without physically removing all of the labeled and solid-phase bound complex from solution as taught and suggested by Pourfarzaneh. Following the procedure taught by

Pourfarzaneh in the invention as claimed by Applicant would result in a binding pair member bound to solid phase and potentially vitamin B12 bound to a solid phase supported antibody. Continuing to follow Pourfarzaneh would require that all solid phase bound material be eliminated, including the binding pair member. In this manner, Pourfarzaneh obliterates the invention as claimed.

Moreover, the invention as claimed cannot use solid phase binders to remove the interferent as taught by Pourfarzaneh since solid phase interferent binders negatively impact the assay performed by the claimed test kit and obviate the effects of eliminating the interfering effects of vitamin B12. Even if the solid phase binders, as taught by Pourfarzaneh, are not eliminated from solution as indeed Pourfarzaneh teaches, the skilled artisan is led away from the claimed invention as this results in persistence of the potential interferent (vitamin B12) bound to a solid support. Such residual interferent may later become unbound and adversely affect the assay performance, thus voiding the interferent-removal effects of the claimed invention. Pourfarzaneh fails to teach or suggest a purely liquid-form of interferent removal, i.e., an interference blocking reagent, as claimed by Applicant.

Thus, neither Newman nor Pourfarzaneh, nor the combination thereof, teach or suggest the present invention as claimed in independent claim 13. Therefore, independent claim 13 is not obvious over Newman in view of Pourfarzaneh.

Applicant respectfully requests the Examiner withdraw the rejection of independent claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Newman (U.S. Patent No 6,942,977) or, alternatively, Newman (Canadian Patent Application 2,110,109), in view of Pourfarzaneh (U.S. Patent No. 5,564,104).

Dependent claims 14-15, 17-18 and 20-22, which are dependent from independent claim 13, are also rejected as being unpatentable under 35 U.S.C. § 103(a) as being unpatentable over Newman (U.S. Patent No 6,942,977) or, alternatively, Newman (Canadian Patent Application 2,110,109), in view of Pourfarzaneh (U.S. Patent No. 5,564,104). While Applicant does not acquiesce to the particular rejections to these dependent claims, it is asserted that these rejections are moot in view of the remarks made in connection with independent claim 13. These dependent claims include all of the limitations of the base claim and any intervening claims, and recite additional features which further distinguish these claims from Newman in view of Pourfarzaneh.

For at least the reasons set forth above, Applicant respectfully requests the Examiner withdraw the rejection of claims 14-15, 17-18 and 20-22 under 35 U.S.C. § 103(a) as being unpatentable over Newman (U.S. Patent No 6,942,977) or, alternatively, Newman (Canadian Patent Application 2,110,109), in view of Pourfarzaneh (U.S. Patent No. 5,564,104).

In paragraph 10 on page 6 of the Office Action, claim 19 is rejected under 35 U.S.C. §103(a) as being unpatentable over Newman in view of Pourfarzaneh as applied to claims 17-18 above, and in further view of Herbert (US Patent No. 4,680,273). Applicant respectfully traverses this rejection.

As discussed above, neither Newman, nor Pourfarzaneh, nor the combination thereof, teach or suggest Applicant's invention as claimed in independent claim 13. Herbert fails to cure the defects of these cited references.

While Applicant does not acquiesce to the particular rejections to dependent claim 19, it is asserted that this rejection is moot in view of the remarks made in connection with independent claim 13. Dependent claim 19 includes all of the limitations of the base claim and any intervening claims, and recites additional features which further distinguish these claims from Newman in view of Pourfarzaneh and in further view of Herbert.

For at least the reasons set forth above, Applicant respectfully requests the Examiner withdraw the rejection of claim 19 under 35 U.S.C. §103(a) as being unpatentable over Newman in view of Pourfarzaneh and in further view of Herbert.

CONCLUSION

In view of the amendments and reasons provided above, it is maintained that all pending claims are in condition for allowance. The amendments clarify the patentable invention without adding new subject matter. Applicant respectfully requests favorable reconsideration and early allowance of all pending claims.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's attorney of record, Jeffrey R. Stone at 952-253-4130 or M. Luke Alter at 305-380-3636.

Respectfully submitted,
BECKMAN COULTER, INC.
Customer No. 23397

Date: June 16, 2006

By: _____
Jeffrey R. Stone
Reg. No. 47,976
JRS/mej